

JORDAN POND ROAD BRIDGE

Acadia National Park Roads & Bridges

Jordan Pond Road, spanning Barr Hill-Day Mountain Carriage Road

Seal Harbor Vicinity

Hancock County

Maine

HAER NO. ME-44

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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service

Department of the Interior

P.O. Box 37127

Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

JORDAN POND ROAD BRIDGE

HAER No. ME-44

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LOCATION: Spanning Barr Hill-Day Mountain carriage road on Jordan Pond Road, 1/2 mile northwest of Seal Harbor, Mount Desert Island, Hancock County, Maine

Quad: Seal Harbor, ME
UTM: 19/560200/4906300

DATE OF CONSTRUCTION: 1933

ARCHITECT: Charles W. Stoughton

ENGINEER: Paul D. Simpson

CONTRACTOR: Wyman and Simpson, Augusta, ME

STRUCTURE TYPE: Stone-faced reinforced concrete filled spandrel arch bridge

FHWA STRUCTURE NO.: 1700-041S

SIGNIFICANCE: The single-span Jordan Pond Road Bridge carries the Jordan Pond Road, a town motor road, over the carriage road link between the Rockefeller estate and the Day Mountain loop. The carriage road passes through the area in a cut, hiding views of houses on the outskirts of Seal Harbor. The bridge allows the town road to cross on a separate level preserving the visual separation and providing more safety than a grade crossing.

PROJECT

INFORMATION:

Documentation of the Jordan Pond Road Bridge is part of the Acadia National Park Roads and Bridges Recording Project, conducted in 1994-95 by the Historic American Engineering Record. This is one in a series of project reports. HAER No. ME-13, ROCKEFELLER CARRIAGE ROADS, contains more specific information on the park carriage road system.

Richard H. Quin, HAER Historian, 1994

This is one in a series of reports prepared for the Acadia National Park Roads and Bridges Recording Project. HAER No. ME-13, Rockefeller Carriage Roads, contains more specific information on the park carriage road system.

HISTORY

The last major segment of the Rockefeller carriage road system on Maine's Mount Desert Island to be constructed was a loop and summit road system at Day Mountain, a relatively low mountain (583' elevation) but one which offered stunning views out to sea. For access to the new loop system, a short connecting road was constructed from the John D. Rockefeller, Jr. estate at Barr Hill. Less than a mile in length, the connector crossed the Jordan Pond and Stanley Brook motor roads, and Rockefeller decided to construct bridges at their junctions in order to alleviate the hazards of a grade crossing and to keep the motor and carriage road systems separate.

The first of the two bridges was built to carry the Jordan Pond Road, an old town road connecting Seal Harbor with the Jordan Pond House, over the new carriage road connector. Rockefeller engaged New York architect Charles W. Stoughton to design the bridge. Stoughton had designed other bridges for the Mount Desert system as well as for the network of carriage roads at the Rockefeller family estate in Pocantico Hills, New York. Stoughton sent a set of plans and working drawings in summer 1931. Rockefeller forwarded the plans to his carriage road engineer, Paul D. Simpson, noting the design was satisfactory to him. Simpson was to work out the site planning and oversee the construction of the bridge.¹

Most of the other carriage road bridges on the system had been constructed by a small Seal Harbor contractor, Byron W. Candage & Son, but some of the recent bridges had been built by Rockefeller's own forces under the supervision of S. F. Ralston, the superintendent of the Rockefeller estate at Seal Harbor. Although the Candages had failed on numerous occasions to keep the construction costs within estimates, Rockefeller invited them to submit a bid for the Jordan Pond Road Bridge. Sam Candage bid \$25,158 on the project, a figure which startled Rockefeller. He asked Ralston to check the estimates and Ralston replied that he thought the bridge could be built for \$16,500, though this figure did not include any profit for the contractor. Rockefeller wrote

¹John D. Rockefeller, Jr., New York, to Paul D. Simpson, Seal Harbor, ME, 7 August 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

replied to Candage that his own crews had recently constructed another bridge (the West Branch Jordan Stream Bridge, HAER No. ME-42), which utilized twice as much stone, for thousands of dollars less, and suggested that his men could build the new structure for one-half to three-quarters of the price bid by Candage. He told Candage he would like to award him the work out of convenience, but asked how he could justify the high cost.²

Candage wrote back that his estimate was based on the projected cost and a customary 15 percent profit, but pointed out that he was forced to charge daily rates for the use of his machines in the work. On the other hand, Ralston was only estimating the cost of gas, oil and repairs for the Rockefeller-owned equipment, and this factor, he complained, accounted for most of the cost discrepancy. Candage admitted he was puzzled by another factor. Ralston had hired many of the men who normally worked for the Candages, paying them a dollar a day more. Candage suggested this would ordinarily give his firm an advantage but was seemingly working the other way, making his firm less efficient. Candage concluded that he was sorry not to get the work, the times being so difficult, but added that "what can't be cured must be endured".³

Because of the cost factor and the earlier problems with delays, Rockefeller decided not to use Candage for the work and instructed Ralston to use his own forces. Rockefeller then had two construction crews at work building the Amphitheatre and West Branch Jordan Stream bridges (HAER Nos. ME-41 and ME-42). Rather than starting up a third crew, he recommended Ralston transfer the force from the Amphitheatre Bridge as soon as it was completed. He also indicated his quarry and sandpit at Brown Mountain should provide the necessary stone for the work.⁴

²Sam W. Candage, B. W. Candage & Son, Seal Harbor, ME to Rockefeller, 11 September 1931; Rockefeller to Candage, 14 September 1931, S. F. Ralston, Seal Harbor, ME to Rockefeller, 24 September 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

³Candage to Rockefeller, 15 September 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

⁴Rockefeller to Ralston, 14 September 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

Although Rockefeller now seemed inclined to have the work done by Ralston, he changed his mind the following week and had other bids solicited for the project. The Augusta, Maine firm of Wyman and Simpson submitted the low bid of \$21,850, below the Candage estimate but considerably higher than Ralston's \$16,500 figure.⁵ Despite the \$5,000-plus discrepancy, Rockefeller awarded the Wyman & Simpson the contract.⁶ Walworth Simpson, one of the principals, was the brother of Rockefeller's engineer, Paul Simpson.

In late October, Paul Simpson was completing the final site plans. It would be necessary, he stated, to provide for the town's existing sewerage line to be carried under the bridge, and a town water line around the bridge's east end, both of which would increase the complexity of the project. Simpson noted that it would probably be necessary to transfer a right-of-way to the town for the line's location.⁷ The additional costs for the water and sewerage line work were factored in, and the Wyman & Simpson contract, signed on 3 October, was increased to \$30,000.⁸

Another site consideration was the height of the arch. To verify the height was appropriate, Rockefeller's factotum Robert W. Gumbel conducted an experiment, measuring the height from the ground to the top of the "high silk hat of the sort usually worn while driving." Gumbel determined a height of at least 10'5" was required. As a result, Rockefeller ordered the height of the arch to be at least 12'. Paul Simpson wrote back that they were designing the arch at 13'6" to be "on the safe side."⁹

⁵Wyman and Simpson, Inc., Augusta, ME to Ralston, 26 September 1931. Rockefeller Archives Center, Simpson Family Papers, Record Group IV3A10, Box 1 Folder 4.

⁶Rockefeller to Ralston, 2 October 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

⁷Simpson to Rockefeller, 26 October 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

⁸Memorandum of Agreement between S. F. Ralston, Seal Harbor, ME and Wyman & Simpson, Inc., Augusta, ME, 3 October 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

⁹Robert W. Gumbel, New York, to Rockefeller, 10 September 1931; Rockefeller to Paul Simpson, to Simpson, 15 September 1931; Paul Simpson to Rockefeller, 31 September 1931. Rockefeller

Because the projected cost of the bridge continued to rise, Rockefeller had Ralston secure a lower price from the firm by agreeing to do the excavation for the structure and allowing the company to use the Rockefeller quarry rather than supplying the necessary stone. Ralston felt the stone could be quarried there and delivered more cheaply than from other sources, and it was easier to cut and split than stone from other sites. Ralston calculated the cost of the necessary excavation at \$9,000. This entailed the removal of more than 10,000 cubic yards of material for the bridge and an accompanying road cut, and the relocation of 560 linear feet of the town sewerage line. Another 370 linear feet of drains would have to be installed. Ralston estimated the work would require between 35 and 40 days to execute.¹⁰

Construction of the bridge took from October 1931 until May 1932. The stone used in the structure came from Rockefeller's prized Brown Mountain quarry, but there was a complication. Ralston showed Wyman and Simpson what stone could be removed and directed them where to set up their derrick. Once a considerable amount of stone had been taken out, they discovered the derrick had been set up on the property line and the stone had been taken off the adjacent property. The owners, the Kimball estate, submitted a large bill for the stone, charging \$5 a cubic yard for stone which ordinarily went for 50 cents per cubic yard. Ralston insisted that Wyman & Simpson were responsible for the bill, but the firm protested that Ralston had shown what stone should be used, and in the end Rockefeller paid the bill in full.¹¹

Little information on the actual construction of the bridge appears in the Rockefeller correspondence. Ralston was only indirectly involved from this point, and Paul Simpson was responsible for the project supervision. Ralston did report favorably on the contractors, stating that they were "nice people

Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

¹⁰Rockefeller to S. F. Ralston, Seal Harbor, ME, 30 September 1931; Ralston to Rockefeller, 21 September 1931; Ralston to Rockefeller, 28 September 1931. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

¹¹Walworth Simpson to Ralston, 5 September 1933; Ralston to Robert W. Gumbel, New York, 11 December 1933. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

to get along with and are willing to go to any reasonable length to please."¹²

The Jordan Pond Road Bridge was completed in late spring 1932 at a cost of \$28,200, or \$1,800 below the final contract cost. Ralston indicated some initial disappointment with its appearance. He stated it was "different from any of the other bridges; it is much rougher and some of the stone work does not appeal to me at all. . . . When I saw it I was very much disappointed in it." But he conceded that as time passed, he liked it more and more. Stoughton had visited the site, he reported, and remarked that the bridge looked "much like some of the old English bridges." At any rate, the bridge was nearly complete. Ralston indicated that he expected Wyman & Simpson to complete the entire project, including the road cut and retaining walls, by the first of May.¹³

In September, Rockefeller wrote his architect, Stoughton, instructing him to place the date of construction on the keystone on the western side of the bridge. As Rockefeller felt the main use of the bridge would be by horse traffic passing underneath the structure, he wanted the date visible from the horse road. If Stoughton wanted the date on both keystones, that too would be satisfactory.¹⁴ In the end, however, the date was placed on the side wall of the bridge underneath the arch, again where it could be easily seen by horse traffic.

Although Wyman and Simpson managed to construct the bridge below the contract price, Rockefeller did not select the firm to build the second bridge on the Barr Hill-Day Mountain connector, the Stanley Brook Bridge [HAER No. ME-45]. Once Rockefeller made a decision to have the bridge built by his own forces, Walworth Simpson wrote to find why his firm was not selected, despite the fact of again being the low bidder. He remarked that Ralston had indicated that Rockefeller was not satisfied with the appearance

¹²Ralston to Rockefeller, 7 April 1932. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1240.

¹³Ralston to Rockefeller, 7 April 1932; Ralston to Gumbel, 30 May 1932. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1238.

¹⁴Rockefeller to Charles W. Stoughton, New York, 3 October 1922. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 123 Folder 1243.

of the Jordan Pond Road Bridge. Simpson asked to "what the trouble could be because we took quite a bit of pride in what we thought was a fair piece of construction." Rockefeller wrote back, stating that he was not dissatisfied with the Jordan Pond Bridge, which he called "interesting to look at and well built," but was rather rejecting the bid in order to have the work done by his own crews. He indicated the bid was not accepted because "we have ourselves developed a technique in bridge building as a result of which we are able to build less expensively than by contract."¹⁵ The Jordan Pond Road Bridge was the only Acadia carriage road bridge actually built on a bid-and-contract basis.

The bridge was inspected in June 1993 by Vanasse Hangen Brustlin, Inc., a Boston structural engineering firm. In the report, the firm identified a number of problems with the structure, including a large crack across the southeast wing wall, moderate calcium carbonate efflorescence beneath the voussoirs and minor deposits on the spandrel and wing walls, moderate mortar joint deterioration, and vegetation growing on the inside of the parapet walls. The firm outlined a series of recommendations for the rehabilitation of the structure; these included waterproofing the roadway off the structure, removal of the calcium carbonate deposits, and repointing of the deteriorated mortar joints.¹⁶

DESCRIPTION

Jordan Pond Road Bridge carries the Jordan Pond Road, a moderately-used town road, over the Barr Hill-Day Mountain carriage road about half a mile northwest of Seal Harbor. The carriage road approaches the bridge in a deep cut lined with stone breast walls; the depressed road is screened from nearby development by the walls bordering the cut leading up to the bridge and by a dense screen of planted pines and mountain maple.

The 85'-long bridge is a single-span reinforced concrete filled spandrel arch structure faced in native stone. The single segmental arch has a clear span of 26'8" and stands 14'6" above

¹⁵Walworth Simpson to Rockefeller, 6 June 1933; Rockefeller to Walworth Simpson, 31 June 1933. Rockefeller Archives Center, Office of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 121 Folder 1220.

¹⁶Vanasse Hangen Brustlin, Inc. and McGinley Hart & Associates, *Historic Bridge Reconnaissance Survey: Carriage Road System, Acadia National Park*, draft ed. (Boston: National Park Service, North Atlantic Regional Office, September 1993), 107-11.

the road. The motor road atop the bridge is 29' wide between the parapet walls.

Like most of the other carriage road bridges on the Mount Desert Island system, the bridge is constructed of reinforced concrete but faced in rough ashlar granite native to the island. The stone is generally laid in irregular horizontal courses, but the stone parapet walls include square and rectangular blocks to provide visual relief. The arch is defined by arch radiating voussoirs or arch ring stones with central keystones on each side, and the intrados or underneath of the arch is faced in exposed stone. A flat stone with the date of construction, 1932, is centered on the southern wall beneath the arch. Stone breast walls, of construction matching the face work on the bridge, extend east and west from the bridge for the length of the road cut.

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